

۱۹، ۷۵ آفرین

تکلیف سری ۱۳

ب. آفرین

لعبه کربا بستان

$$a_1 = 4, a_2 = 1$$

$$4 + 3d = 41$$

$$3d = 37 \rightarrow d = 12.33$$

$$a_n = 4 + (n-1)3$$

$$4 + (n-1)3 = 208$$

$$(n-1)3 = 204$$

$$n-1 = 68 \rightarrow n = 69$$

$$v k + 2$$

$$1000 < v k + 2 < 10000$$

$$99 < v k < 9999$$

$$12, 18 \leq k < 123, 4 \rightarrow 12 < k < 123$$

$$a_{n+1} + a_{n+2} + a_{n+3} = -4n + 12$$

$$a_{12} + a_{13} = 2$$

$$n+2=12$$

$$n=10$$

$$n+2=13$$

$$n=11$$

$$a_{12} + a_{13} = -24 - 1$$

$$-4n + 12 = \frac{1}{r} (a_{n+1} + a_{n+2})$$

$$-4n + 12 = \frac{1}{r} (2a_{n+2})$$

$$-4n + 12 = 2a_{n+2}$$

$$-2n + 6 = a_{n+2}$$

$$-2n + 6 = -24$$

$$-2n + 6 = -1$$

$$r^x - 1, r^{x+1}, r^x - 3$$

$$a_x, a_{x+1}, a_{x+2}$$

$$\textcircled{1} r^x - 1 + 10d = r^{x+1} - 3$$

$$r + 10d = r^{x+1} - r^x$$

$$r + 10d = r^x (r - 1) \rightarrow r + 10d = r^x (10d - r)$$

$$r + 10d = (10d - 1)(10d - r)$$

$$r^x + r^{x+1} + r^x = 6$$

$$r^x (1 + r + r^x) = 6$$

$$6(1 + r + r^x) = 6 \rightarrow 1 + r + r^x = 1 \rightarrow r = -1$$

$$\textcircled{2} r^x - 1 + 10d = r^{x+1}$$

$$10d - 1 = r^{x+1} - r^x$$

$$10d - 1 = r^x (r - 1)$$

$$10d - 1 = r^x \rightarrow r^x = 10d - 1 \rightarrow x = 1$$

$$r + 10d = r \cdot 10d + r$$

$$0 = r \cdot 10d + r$$

$$0 = r \cdot 10d (d - 1)$$

$$d = 0 \text{ or } d = 1$$

$$a_{12} - a_{10} = A$$

$$a_{12} + a_{10} = 2A$$

$$a_{12} = -12/5 + 2 \cdot (\frac{A}{r}) = 5 \cdot 12/5 = 12$$

$$a_n = -12/5 + (n-1)12/5$$

$$a_{12} = -12/5 + 11 \cdot 12/5 = 12$$

$$a_{12} = \frac{120 + 0}{r} = 12$$

$$a_{10} = \frac{120 - 0}{r} = 12$$

$$a_1 + 11d = 10$$

$$a_1 + 9d = 10$$

$$10 - 11d = 10 - 9d$$

$$d = 2d$$

$$11d = d$$

$$a_1 + 11d = 12$$

$$a_1 + 11 \cdot 2 = 12$$

$$a_1 = -12/5$$

$$r(a_1 + \dots + a_n) = (a_{n+1} + a_{n+2})$$

$$\frac{a_r}{a_1} = 2 \rightarrow \frac{a_1 + d}{a_1} = 1 + \frac{d}{a_1} = 1 + 2 = 3$$

$$\frac{d}{r} (a_1 + a_n) = \frac{1}{r} \times \frac{d}{r} (a_1 + a_n)$$

$$r(a_1 + a_n) = a_1 + a_n$$

$$ra_1 + ra_n + rd = a_1 + nd + a_1 + nd$$

$$ra_1 = 2d$$

$$r = \frac{r}{r} = \frac{d}{d}$$

$$t_n = t_{n-r} + 10$$

$$\xrightarrow{n-r} t_r = t_1 + 10$$

$$t_1 + r d = t_1 + 10$$

$$r d = 10 \rightarrow d = 2$$

$$\frac{(t_q - t_a)(t_q + t_a)}{t_v} = \frac{f_d \times (r t_1 + r d)^r}{t_1 + r d} = 10 d$$

$$= 1 \times 2 = 2$$

- 4

2

$$r \pm \sqrt{r} = r + 1 \pm \sqrt{r} = 1 \pm \sqrt{r}$$

$$\frac{+1 \pm \sqrt{r}}{1 \pm \sqrt{r}} = +\sqrt{r} = d$$

- 1

2

$$r - 1 \pm \sqrt{r}$$

$$, r + \sqrt{r}$$

$$r, \dots, r$$

$$r r - r = r^2$$

$$\frac{r^2}{r n - r} = \frac{10}{r n - 1} = d$$

- 9

2

$$\text{New } r n : r + (n+1-1) \frac{10}{r n - 1} \rightarrow r + \frac{10 n}{r n - 1} = 11$$

$$\frac{10 n}{r n - 1} = 9 \rightarrow 10 n - 9 = 10 n$$

$$r n = 9 \rightarrow n = 3$$

$$a_n + a_{n+1} = a_r + a_{10}$$

$$\xrightarrow{\text{لغز الـ 10}} r n + 10 = r_0$$

$$r n = 10$$

$$n = 10$$

$$a_n = r a_{\frac{n}{r}}$$

$$a_n = r a_1$$

$$a_1 + 10 d = r a_1 + 10 d$$

$$- r d = r a_1$$

$$- d = a_1$$

$$d = -a_1$$

الـ 10

2

$$a_1, a_r, a_{10}$$

$$\downarrow$$

$$a_1 + d \rightarrow a_1 - a_1 = 0$$